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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,567	12/12/2001	Hidemichi Fujiwara	KAWAW19.001AUS	9280

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EXAMINER
NGUYEN, CHAU N

ART UNIT	PAPER NUMBER
2831	4

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/021,567	FUJIWARA, HIDEMICHI	
	Examiner	Art Unit	
	Chau N Nguyen	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☒ Claim(s) *11-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of the insulation layer comprising three layers of a first, a second and a third insulating layer while the shield layer comprising two layers of a first and a second shield layer, wherein the stranded wire is covered by the first insulating layer, the first shield layer, the second insulating layer, the second shield layer, and the third insulating layer in this order as claimed in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (6,239,373) in view of JP2001-226754 (JP'754).

Sato et al. discloses a cable comprising a stranded wire (16) formed of a plurality of strands, at least one insulation layer (17) covering the stranded wire, and at least one shield (18) formed of a braid. Sato et al. also discloses the insulation layer and the shield layer, each comprising a single layer, the stranded wire being orderly covered by the insulation layer and the shield layer (re claim 5), the at least one insulation layer comprising two layers of first and second insulation layer while the shield layer comprising a single layer, and the stranded wire being orderly covered by the first insulation layer, the shield layer and the second insulation layer (re claim 6).

Sato et al. does not disclose each of the strands consisting essentially of Zr: 0.05 to 0.4%, Fe: 0.05 to 0.2%, Si: 0.05 to 0.2%, a total amount of one or at least two kinds selected from a group consisting of Be, Sr, Mg, Ti and V: 0.003 to 0.05%, and balance being Al and inevitable impurities, nor the braid containing more than 99 wt.% of Al. (re claim 1).

JP'754 discloses an aluminum alloy for electric cable, the aluminum alloy consisting essentially of Zr: 0.05 to 0.4%, Fe: 0.05 to 0.2%, Si: 0.05 to 0.2%, a

total amount of one or at least two kinds selected from a group consisting of Be, Sr, Mg, Ti and V: 0.003 to 0.05%, and balance being Al and inevitable impurities. It would have been obvious to one skilled in the art to use the aluminum alloy taught by JP'754 for the strands of Sato et al. since the aluminum alloy taught by JP'754 has characteristics well balanced among tensile strength, electric conductivity and short-time heat resistance.

Although not specifically disclosed by Sato et al, it would have been obvious to one skilled in the art to use pure aluminum, with more than 99wt.% of Al, for the braid of Sato et al. since pure aluminum is well-known in the art for its highly electric conductivity.

The modified cable of Sato et al. can be used as an automobile power cable since it comprises structure and material as claimed.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Nishikawa et al. (4,729,939).

Sato et al. discloses an invention substantially as claimed except for each strand consisting essentially of Zr: 0.03 to 0.4%, Fe: 0.2 to 0.7%, Si: 0.2 to 0.6%, Mg: 0.35 to 1.2%, Cu: 0.05 to 0.4%, a total amount of at least one of two

kinds of Ti and V: 0.003 to 0.05%, and balance being Al and inevitable impurities, and the braid containing more than 99wt.% of Al.

Nishikawa et al. discloses an aluminum alloy having high mechanical strength, the aluminum alloy consisting essentially of Zr: 0.03 to 0.4%, Fe: 0.2 to 0.7%, Si: 0.2 to 0.6%, Mg: 0.35 to 1.2%, Cu: 0.05 to 0.4%, a total amount of at least one of two kinds of Ti and V: 0.003 to 0.05%, and balance being Al and inevitable impurities (col. 2, lines 59-63). It would have been obvious to one skilled in the art to use the aluminum alloy taught by Nishikawa et al. for the strands of Sato et al. since the material taught by Nishikawa et al. has high mechanical strength.

Although not specifically disclosed by Sato et al, it would have been obvious to one skilled in the art to use pure aluminum, with more than 99wt.% of Al, for the braid of Sato et al. since pure aluminum is well-known in the art for its highly electric conductivity.

The modified cable of Sato et al. can be used as an automobile power cable since it comprises structure and material as claimed.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of JP'754 as applied to claim 1 above, and further in view of Suzuki et al. (5,532,910).

Claim 3 additionally recites each Al alloy strand being coated on its outer surface with a Ni layer. Suzuki et al. discloses an invention relating to a lead-bonding wire. Suzuki et al. discloses that nickel is known for being used to coat a lead for corrosion prevention (col. 1, lines 24-26). It would have been obvious to one skilled in the art to coat each aluminum alloy strand of Sato et al. with a nickel layer for corrosion prevention as taught by Suzuki et al.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of Nishikawa et al. as applied to claim 2 above, and further in view of Suzuki et al.

Claim 4 additionally recites each Al alloy strand being coated on its outer surface with a Ni layer. Suzuki et al. discloses an invention relating to a lead-bonding wire. Suzuki et al. discloses that nickel is known for being used to coat a lead for corrosion prevention (col. 1, lines 24-26). It would have been obvious to one skilled in the art to coat each aluminum alloy strand of Sato et al. with a nickel layer for corrosion prevention as taught by Suzuki et al.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of JP'754 as applied to claim 1 above, and further in view of Nixon (4,408,089).

Nixon discloses a cable comprising at least one insulation layer comprising first, second and third insulation layer and at least one shield layer comprising two shield layers, wherein the central conductor is orderly covered by the first insulation layer, the first shield layer, the second insulation layer, the second shield layer, and the third insulation layer. It would have been obvious to one skilled in the art to additionally provide the cable of Sato with a second shield layer and a third insulation layer as taught by Nixon so that the modified cable of Sato et al. can be used in a relatively high frequency range.

8. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of JP'754 as applied to claims 5 and 6 above, and further in view of Kenny et al. (5,514,837).

Kenny et al. discloses a cable comprising flame-resistant polyolefin resin as insulation material. It would have been obvious to one skilled in the art to use flame-resistant polyolefin resin as taught by Kenny et al. for the insulation layer of

Sato et al. since the polyolefin resin taught by Kenny et al. is flame-retardant material.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. in view of JP'754 and Nixon as applied to claim 7 above, and further in view of Kenny et al.

Kenny et al. discloses a cable comprising flame-resistant polyolefin resin as insulation material. It would have been obvious to one skilled in the art to use flame-resistant polyolefin resin as taught by Kenny et al. for the insulation layer of Sato et al. since the polyolefin resin taught by Kenny et al. is flame-retardant material.

Allowable Subject Matter

10. Claims 11-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest an automobile power cable comprising all the features as recited in claim 1 and in combination

with a terminal being made of Al alloy consisting essentially of Zr: 0.03 to 0.4 wt.%, Si: 0.05 to 0.15wt.%, and balance being Al and inevitable impurities, wherein the terminal is coated with a Ni layer over its surface adapted to be made into contact with the stranded wire of the power cable and grooves having a depth of greater than 0.1 mm formed therein (re claim 11), and with a terminal being made of Cu alloy consisting essentially of Zr: 10 to 40 wt.% and balance being Cu and inevitable impurities, wherein the terminal is coated with an Sn layer over its surface adapted to be made into contact with the stranded wire of the power cable and grooves having a depth of greater than 0.1 mm formed therein (re claim 12).

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N Nguyen whose telephone number is 308-0693. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308 3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308 3431 for regular communications and (703) 305 1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chau N Nguyen
Primary Examiner
Art Unit 2831

CN
June 28, 2002